

General specification for well drilling operations affecting water in South Australia

Undertaken pursuant to a well drillers' licence issued under section 115 of the *Landscape South Australia Act 2019*



**Government
of South Australia**

Department for
Environment and Water

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Introduction

Pursuant to section 115(3) of the [Landscape South Australia Act 2019](#) (the Act) a well drillers' licence is subject to such conditions prescribed from time to time by the [Landscape South Australia \(Water Management\) Regulations 2020](#) (the Regulations) and to such further conditions specified on the well drillers' licence by the Chief Executive.

Regulation 25 of the Regulations prescribes a number of conditions in relation to well drillers' licences, including that the licence holder must comply with certain directions given by the Chief Executive.

Part A of this document summarises well related obligations under the Act. Part B of this document includes additional directions, pursuant to Regulation 25 of the Regulations.

Both the provisions in the Act and my directions are binding and must be complied with by all well drillers, whether the work authorised by a well permit is undertaken by a person who is a licensed well driller or by a person who is supervised by a licensed well driller.

Directions in Part B are subject to further directions made by me or my delegate in writing from time to time.

Definitions

Chief Executive means the Chief Executive of the Department for Environment and Water.

Delegate means an officer of the Department for Environment and Water who has been authorised to act on behalf of the Chief Executive.

Department for Environment and Water means this, or any subsequent or equivalent department name, being the administrative unit designated from time to time by the Minister by notice in the Gazette as being the department primarily responsible for assisting a Minister in the administration of the Act.

Drilling Inspector means a Drilling Inspector of the Department for Environment and Water or any person appointed by the Chief Executive of the Department for Environment and Water from time to time. Any person holding such position or acting in such position has been appointed to be an authorised officer pursuant to and for the purposes of the Act.

Licensed well driller means a person who holds a licence under Part 8 of the Act to drill wells.

Minimum Construction Requirements means the Minimum Construction Requirements for Water Bores in Australia, Fourth edition 2020 (ISBN 978-0-646-81881-8).

Permit holder means a person who holds a well permit issued by the Department for Environment and Water to construct a well on a specified location. A permit holder may or may not be the land owner.

Supervision by a licensed well driller means supervision on the site where well drilling operations are being undertaken and not remote or off-site supervision.

The Act means the *Landscape South Australia Act 2019*.

The Regulations means the *Landscape South Australia (Water Management) Regulations 2020*.

Well drilling operations includes drilling, plugging, backfilling, sealing, repairing, replacing or altering the casing, lining or screen of a well.

Well permit means an authorisation issued by the Department for Environment and Water to construct a well on a specified location. This document lists relevant legislative requirements, authorises construction and outlines conditions relating to the well drilling operations, as listed above.

PART A: Well Drillers' Obligations

1. Obligations under the Act

- 1.1. In South Australia, provisions relating to wells are contained in Part 8 Subdivision 5 of the Act. Including but not limited to:
 - Section 115(3) of the Act - a licensed well driller must comply with the conditions as specified in the well drillers' licence or prescribed by the Regulations (Regulation 25).
 - Section 115(4) of the Act - it is an offence to contravene or fail to comply with a condition of the well drillers licence. In such a case, I may cancel or suspend the licence, or vary a condition of the licence and penalties may apply.
- 1.2. In addition, pursuant to section 104(3) of the Act, the following activities must not be undertaken unless authorised to do so by a well permit or a water management authorisation (i.e. a water resource works approval):
 - drilling, plugging, backfilling, or sealing of a well, and/or
 - repairing, replacing or altering the casing, lining or screen of a well.
- 1.3. Schedule 3 of the Act sets out classes of wells in relation to which a permit is not required.
- 1.4. Pursuant to section 112(8) of the Act, it is a condition of a well permit to undertake well drilling operations that the work be undertaken by a person who is a licensed well driller or is supervised in carrying out the work by a licensed well driller.
- 1.5. Pursuant to section 120(3) of the Act, if, in the opinion of the Chief Executive, a defect in a well resulted from work carried out by a licensed well driller, the Chief Executive may serve notice on the well driller directing that:
 - the work or other action specified in the notice be carried out or taken to remedy the problem, and/or
 - the well be plugged, backfilled or sealed.Such a notice must not be served no later than six months after the work was carried out.
- 1.6. Pursuant to section 120(4) of the Act, a well driller on whom a notice is served is entitled to enter the land on which the well is situated in order to comply with the notice. Failure to comply with the notice is an offence for which penalties may apply.
- 1.7. In undertaking well drilling operations, a licensed well driller or a person supervised by a licensed well driller must act in accordance with all other relevant legislative obligations and policies.

2. Other legislative obligations

- 2.1. In undertaking well drilling operations, a licensed well driller or a person supervised by a licensed well driller must act in accordance with all other relevant legislative obligations and policies including obligations under the:
 - [Environment Protection Act 1993](#)
 - [Environment Protection \(Water Quality\) Policy 2015](#)
 - [River Murray Act 2003](#)
- 2.2. The above list is not exhaustive and there may be other relevant legislative obligations that must be complied with.
- 2.3. It is the responsibility of the individual licensed well driller to keep up to date with relevant legal obligations.

PART B: Directions of the Chief Executive

I, John Schutz, being the Chief Executive of the Department for Environment and Water, direct that:

Direction 1: Keeping and producing records

Pursuant to Regulation 25(a) and (b) of the Regulations and unless otherwise directed by me or my Delegate:

- 1.1 A licensed well driller must complete a well completion report upon the completion of each activity authorised by the well permit. This information may be used to assess compliance with the conditions of the well permit and is entered into the state groundwater database.
- 1.2 If multiple well drilling operations result from unsuccessful well drilling attempts, a well completion report is required for each unsuccessful well drilling operation.
- 1.3 Within 30 days of the completion of a well, the licensed well driller must produce:
 - the completed well completion report, and
 - any strata and water samples collected (if required by the well permit), and
 - a map showing the location of the well as close as possible to its actual location, and in any event to an accuracy of not more than 50 meters from its actual location or the GPS coordinates of the well on the form.

These items are to be submitted to the Department for Environment and Water, via the online [Well Completion Report](https://www.environment.sa.gov.au/topics/water/water-licences-and-permits/well-drilling) form (<https://www.environment.sa.gov.au/topics/water/water-licences-and-permits/well-drilling>) or using the contact details below.

- 1.4 The licensed well driller must retain a copy of the well completion report for a period of five years from the date of submission of the report to the Department for Environment and Water.
- 1.5 Where the licensed well driller or well permit holder wishes to conduct well drilling operations in a manner other than in accordance with my directions, the proposal must be discussed with the Drilling Inspector prior to commencement of the well drilling operations.
- 1.6 Contact details of the Drilling Inspector:

Address: Water Licensing Branch
Department for Environment and Water
GPO Box 1047, Adelaide SA 5001

Telephone: (08) 8463 6841 or 0428 828 569

Email: DEWDrillingInspector@sa.gov.au
- 1.7 Any formal proposal for a variation of the Chief Executive's Directions must be made in writing by the licensed well driller, either addressed to:

The Chief Executive c/o the Drilling Inspector
Water Licensing Branch
Department for Environment and Water
GPO Box 1047, Adelaide SA 5001
or via email to DEWDrillingInspector@sa.gov.au

Direction 2: Taking samples of water and other material

Pursuant to Regulation 25(d) of the Regulations, and unless otherwise directed by me or my Delegate:

- 2.1 If the well permit contains conditions that require strata samples from wells drilled, the licensed well driller must take and submit strata samples in accordance with the following:
 - 2.2 Strata samples:
 - 2.2.1 A strata sample of not less than 250 grams must be collected at intervals not exceeding three meters and at each change of the strata observed in the well.
 - 2.2.2 Each strata sample must be secured in a clean sample bag or container and appropriately sealed.
 - 2.2.3 Individual sample bags or containers must be labelled with the well permit number and the depth Interval (in metres) from which the sample was taken.
 - 2.2.4 In the event of multiple well drilling operations being undertaken pursuant to the same permit as a result of unsuccessful well drilling attempts, the strata samples for each well must be separately identified by consecutive alphabetical letters ('A', 'B', 'C' etc) on the label.
 - 2.2.5 Individual strata samples for a well must be packed in one box (if possible) in sequence of sample depths.
 - 2.2.6 In the event that the licensed well driller wishes to submit samples from more than one well undertaken pursuant to more than one permit in one box, a separator inscribed with the permit number must be placed at the beginning of each sample 'run'.
- 2.3 If the well permit contains conditions that require water samples from wells drilled, the licensed well driller must take and submit water samples in accordance with the following:
 - 2.3.1 A water sample of not less than 500 millilitres of water must be collected as soon as any water is cut unless the drilling method used does not permit the taking of such sample and at the completion of the well drilling operations.
 - 2.3.2 A water sample must be collected in a clean bottle and must be appropriately sealed.
- 2.3.3 Water samples must be labelled with the following details:
 - the well permit holder's name,
 - the well permit number,
 - the date the sample was collected,
 - the depth from which the sample was taken (in metres),
 - when the sample was taken (during drilling, development etc), and
 - the name and address of the well driller responsible for the operation.
- 2.3.4 If the licensed well driller wishes to submit samples relating to more than one permit in one box, a separator inscribed with the permit number must be placed at the beginning of each permit sample 'run'.

Note: further information on formation sampling and water sampling can be found in Chapter 6 of the Minimum Construction Requirements (link below).

Direction 3: Well drilling operations

Pursuant to Regulation 25(e) of the Regulations and unless otherwise directed by me or my Delegate:

- 3.1. In undertaking well drilling operations, a licensed well driller or a person supervised by a licensed well driller must comply with the mandatory requirements of the Minimum Construction Requirements as amended from time to time.

The *Minimum Construction Requirements for Water Bores in Australia* (the Minimum Construction Requirements), fourth edition, has been developed by the National Uniform Driller Licensing Committee. This document outlines the minimum requirements for constructing, maintaining, rehabilitating and decommissioning wells in Australia and provides a consistent standard reference across Australia for the regulation of wells and well drillers.

The Minimum Construction Requirements can be located at:

<http://www.waterconnect.sa.gov.au/Content/Publications/DEW/Minimum-Construction-Requirements-4th-Edition.pdf>

As Chief Executive, I direct that a licensed well driller must comply with the mandatory requirements of the Minimum Construction Requirements, as amended from time to time.

In addition, licensed well drillers should have regard to the good industry practice methods and techniques recommended in the Minimum Construction Requirements.

- 3.2. Siting:

- 3.2.1. Before undertaking any well drilling operations the licensed well driller must obtain confirmation from the permit holder that the well location meets the requirements specified in the well permit.

- 3.3. Notification of intention to undertake well drilling operations:

- 3.3.1. The holder of a Class One well drillers' licence may be requested to provide notification of the intention to commence well drilling operations prior to such commencement. In such a case the licensed well driller must notify the Drilling Inspector at least 24 hours prior to commencement.

- 3.3.2. If a condition of the well construction permit requires a holder of a Class 2 or Class 3 drillers' licence, the licensed well driller must notify the Drilling Inspector at least 24 hours before commencement of the activity.

- 3.4. Notification of occurrences of artesian water:

- 3.4.1. All unexpected occurrences of artesian water must be immediately reported to the Drilling Inspector (contact details provided on page 5 of this document).

- 3.6. The following requirements apply to wells that intersect sediments of the Great Artesian Basin, in addition to the Minimum Construction Requirements, as amended from time to time:

- 3.6.1 Equipment, materials and follow through fluids:

All equipment and materials necessary to reasonably construct each component of the water well and to control the flow from, or between, aquifers intersected by the well, both during and after construction, must be on site at the start of the drilling activity.

This includes adequate supplies of casing, drilling fluids, fresh cement, suitable quality mixing water and adequate storage for grout mixes and follow through fluids. Adequate storage allows for the placement of grout and follow through fluids with no interruption to pumping.

The work must not commence unless the necessary equipment and materials are on site.

3.6.2 Drilling Fluids and Grout:

Unless stated otherwise, drilling fluids and grout must comply with the Minimum Construction Requirements.

As the addition of potassium chloride or other chloride-based chemicals of any kind can potentially result in corrosion of grout or casing, such chemicals must not be added to any drilling fluid used in the construction of a water well.

Calcium chloride or other chloride-based accelerants must not be added to the cement grout mix.

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Department for Environment and Water

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